

**APPENDIX C**  
**PTC APPLICATION FORMS**



**DEQ AIR QUALITY PROGRAM**  
1410 N. Hilton, Boise, ID 83706  
For assistance, call the  
**Air Permit Hotline – 877-5PERMIT**

# PERMIT TO CONSTRUCT APPLICATION

Revision 1  
01/11/07

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Nonpareil Corporation		
2. Facility Name	Same	3. Facility ID No.	011-00027
4. Brief Project Description - One sentence or less	Install new boiler to replace existing east processing boiler		
PERMIT APPLICATION TYPE			
5. <input type="checkbox"/> New Facility <input checked="" type="checkbox"/> New Source at Existing Facility <input type="checkbox"/> Unpermitted Existing Source <input checked="" type="checkbox"/> Modify Existing Source: Permit No.: P-050300 Date Issued: <u>May 9, 2007</u> <input type="checkbox"/> Required by Enforcement Action: Case No.: _____			
6. <input checked="" type="checkbox"/> Minor PTC <input type="checkbox"/> Major PTC			
Included	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU5 – Boiler Information Please Specify number of forms attached: <u>1</u>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form BCE - Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE - Scrubbers Control Equipment	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PP – Plot Plan	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>

DEQ USE ONLY	
Date Received	
Project Number	
Payment / Fees Included? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Check Number	



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01/11/07

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**All information is required. If information is missing, the application will not be processed.**

## IDENTIFICATION

1. Company Name	Nonpareil Corporation
2. Facility Name (if different than #1)	Same
3. Facility I.D. No.	011-00027
4. Brief Project Description:	Install new boiler to replace existing east processing boiler

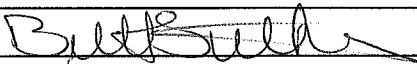
## FACILITY INFORMATION

5. Owned/operated by: (✓ if applicable)	<input type="checkbox"/> Federal government <input type="checkbox"/> County government <input type="checkbox"/> State government <input type="checkbox"/> City government
6. Primary Facility Permit Contact Person/Title	Brett Suthers, Engineering Manager
7. Telephone Number and Email Address	208-785-5880      bsuthers@lovepotatoes.com
8. Alternate Facility Contact Person/Title	
9. Telephone Number and Email Address	
10. Address to which permit should be sent	40 North 400 West
11. City/State/Zip	Blackfoot, ID 83221
12. Equipment Location Address (if different than #9)	Due west of Blackfoot ¾ of a mile
13. City/State/Zip	
14. Is the Equipment Portable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
15. SIC Code(s) and NAISC Code	Primary SIC: 2034      Secondary SIC (if any):      NAICS:
16. Brief Business Description and Principal Product	Potato Processing Plant
17. Identify any adjacent or contiguous facility that this company owns and/or operates	

## PERMIT APPLICATION TYPE

18. Specify Reason for Application	<input type="checkbox"/> New Facility <input checked="" type="checkbox"/> New Source at Existing Facility <input checked="" type="checkbox"/> Modify Existing Source: Permit No.: Permit No.: P-050300    Date Issued: May 9, 2007 <input type="checkbox"/> Unpermitted Existing Source: <input type="checkbox"/> Required by Enforcement Action: Case No.:
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## CERTIFICATION

IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.	
19. Responsible Official's Name/Title	Brett Suthers
20. RESPONSIBLE OFFICIAL SIGNATURE	
21. <input checked="" type="checkbox"/> Check here to indicate you would like to review a draft permit prior to final issuance.	Date: 3/18/08



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## PERMIT TO CONSTRUCT APPLICATION

Revision 1  
 01/11/07

Please see instructions on page **Error! Bookmark not defined.** before filling out the form.

### IDENTIFICATION

Company Name: Nonpareil Corporation	Facility Name: Same	Facility ID No: 011-00027
Brief Project Description: Install new boiler to replace existing east processing boiler		

### EXEMPTION

**Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.**

### Boiler (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

1. Type of Request <input checked="" type="checkbox"/> New Unit <input type="checkbox"/> Unpermitted Existing Unit <input type="checkbox"/> Modification to a unit with Permit #:		
2. Use of Boiler: <input checked="" type="checkbox"/> % Used For Process <input type="checkbox"/> % Used For Space Heat <input type="checkbox"/> % Used For Generating Electricity <input type="checkbox"/> Other:		
3. Boiler ID Number: East Boiler	4. Rated Capacity: <input type="checkbox"/> Million British Thermal Units Per Hour (MMBtu/hr) <input checked="" type="checkbox"/> 40 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
5. Construction Date: 1998	6. Manufacturer: Nebraska	7. Model: NS-C-50
8. Date of Modification (if applicable):	9. Serial Number (if available):	10. Control Device (if any): Low NO <sub>x</sub> Note: Attach applicable control equipment form(s)

### FUEL DESCRIPTION AND SPECIFICATIONS

11. Fuel Type	<input checked="" type="checkbox"/> Diesel Fuel (#2) (gal/hr)	<input checked="" type="checkbox"/> Natural Gas (cf/hr)	<input type="checkbox"/> Coal (unit: /hr)	<input type="checkbox"/> Other Fuels (unit: /hr)
12. Full Load Consumption Rate	340	52,360		
13. Actual Consumption Rate	340	52,360		
14. Fuel Heat Content (Btu/unit, LHV)	140,000 Btu/gal	1,000 Btu/scf		
15. Sulfur Content wt%	0.5			
16. Ash Content wt%		N/A		

### STEAM DESCRIPTION AND SPECIFICATIONS

17. Steam Heat Content	NA	NA		
18. Steam Temperature (°F)	N/A	N/A		
19. Steam Pressure (psi)	N/A	N/A		
20. Steam Type	N/A	N/A	<input type="checkbox"/> Saturated <input type="checkbox"/> Superheated	<input type="checkbox"/> Saturated <input type="checkbox"/> Superheated

### OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	2,533,000 gal #2 fuel oil per year
22. Operating Schedule (hours/day, months/year, etc.):	24 hrs/day, 365 days/yr




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# PERMIT TO CONSTRUCT APPLICATION

Revision 1  
01/11/07

Please see instructions on page before filling out the form.


IDENTIFICATION		
Company Name: Nonpareil Corporation	Facility Name: Same	Facility ID No: 011-00027
Brief Project Description: Install new boiler to replace existing east processing boiler		
APPLICABILITY DETERMINATION		
1. Will this project be subject to 1990 CAA Section 112(g)? (Case-by-Case MACT)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* * If YES then applicant must submit an application for a case-by-case MACT determination [IAC 567 22-1(3)"b" (8)]
2. Will this project be subject to a New Source Performance Standard? (40 CFR part 60)	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES* *If YES please identify sub-part: <u>Dc</u>
3. Will this project be subject to a MACT ( <u>M</u> aximum <u>A</u> chievable <u>C</u> ontrol <u>T</u> echnology) regulation? (40 CFR part 63)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* *If YES please identify sub-part: _____
THIS ONLY APPLIES IF THE PROJECT EMITS A HAZARDOUS AIR POLLUTANT		
4. Will this project be subject to a NESHAP ( <u>N</u> ational <u>E</u> mission <u>S</u> tandards for <u>H</u> azardous <u>A</u> ir <u>P</u> ollutants) regulation? (40 CFR part 61)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* *If YES please identify sub-part: _____
5. Will this project be subject to PSD ( <u>P</u> revention of <u>S</u> ignificant <u>D</u> eterioration)? (40 CFR section 52.21)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
6. Was netting done for this project to avoid PSD?	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* *If YES please attach netting calculations
If you are unsure how to answer any of these questions call the Air Permit Hotline at 877-5PERMIT		

	<b>DEQ AIR QUALITY PROGRAM</b> 1410 N. Hilton Boise, ID 83706 For assistance: (208) 373-0502	<b>PERMIT TO CONSTRUCT APPLICATION</b>											
Company Name:		Nonpareil Corporation											
Facility Name:		Same											
Facility ID No.:		011-00027											
Brief Project Description:		Install new boiler to replace existing east processing boiler											
<b>SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES</b>													
		3.											
1.	2.	PM <sub>10</sub>		SO <sub>2</sub>		NO <sub>x</sub>		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Processing East boiler Oil	EU_01	1.12	4.44	24.480	91.2086	6.80	27.04	4.40	9.21	0.09	0.51		
Processing East boiler NG	EU_01 NG	0.40	1.74	0.03	0.14	2.62	11.47	4.40	19.26	0.29	1.26		
Processing West boiler Oil	EU_02	5.12	19.27	66.54	247.88	14.85	56.62	3.34	14.61	0.346	1.43		
Processing West boiler NG	EU_02 NG	0.30	1.32	0.024	0.10	1.99	8.70	3.34	14.61	0.22	0.96		
Starch Dryer	EU_03	0.3700	1.60	0.0025	0.0108	0.4118	1.8035	0.3500	1.515	0.0226	0.0992		
Scratch Mash Dryer	EU_04	2.5600	11.22	0.0032	0.0142	0.5392	2.3618	0.4500	1.9839	0.0297	0.1299		
Scratch Mash baghouse	EU_05	0.0004	1.88E-03										
Process Peeler exhaust	EU_10	0.1600	0.70										
Flaker #1	EU_11	3.7900	16.62										
Flaker #2	EU_12	3.7900	16.62										
Flaker #3	EU_13	3.0400	13.29										
Flaker #4	EU_14	3.0400	13.29										
Flaker #5	EU_15	3.0400	13.29										
Grinding Circuit #1 baghouse	EU_16	0.0004	1.88E-03										
Starch Plant baghouse	EU_17	0.0009	3.77E-03										
Grinding Circuit #2 baghouse	EU_18	0.0006	2.53E-03										
Flaker Baghouse	EU_19	0.0012	5.27E-03										
Dehy North Boiler	EU_20	0.0750	3.40E-01	0.0062	0.027	1.0294	4.5090	0.8600	3.787	0.057	0.248		
Dehy South Boiler	EU_21	0.0260	2.70E-01	0.0049	0.022	0.8235	3.6070	0.6900	3.03	0.045	0.198		
Dehy Dryer #1A-stage	EU_22	0.57	6.40	0.0038	0.016	0.6275	2.748	0.5300	2.309	0.035	0.151		
Dehy Dryer #1B-stage	EU_23	0.49	2.80	0.0016	0.007	0.2745	1.202	0.2300	1.010	0.015	0.066		

		<b>DEQ AIR QUALITY PROGRAM</b> 1410 N. Hilton Boise, ID 83706 For assistance: (208) 373-0502		<b>PERMIT TO CONSTRUCT APPLICATION</b>									
Company Name:		Nonpareil Corporation											
Facility Name:		Same											
Facility ID No.:		011-00027											
Brief Project Description:		Install new boiler to replace existing east processing boiler											
<b>SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES</b>													
		3.											
		PM <sub>10</sub>		SO <sub>2</sub>		NO <sub>x</sub>		CO		VOC		Lead	
1.	2.	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Emissions units	Stack ID												
Point Source(s)													
Dehy Dryer #2A-stage	EU_24	1.4700	6.40	0.0038	0.016	0.6275	2.748	0.5300	2.309	0.035	0.151		
Dehy Dryer #2B-stage	EU_25	0.6500	2.80	0.0016	0.007	0.2745	1.202	0.2300	1.010	0.015	0.066		
Dehy Dryer #3A-stage	EU_26	1.4700	6.40	0.0038	0.016	0.6275	2.748	0.5300	2.309	0.035	0.151		
Dehy Dryer #3B-stage	EU_27	0.6500	2.80	0.0016	0.007	0.2745	1.202	0.2300	1.010	0.015	0.066		
Dehy Dryer #4A-stage	EU_28	1.1000	4.80	0.0028	0.012	0.4676	2.048	0.3900	1.721	0.026	0.113		
Dehy Dryer #4B-stage	EU_29	0.4700	2.10	0.0002	0.001	0.0324	0.142	0.0300	0.119	0.002	0.008		
Dehy Dryer #4C-stage	EU_30	0.4700	2.10	0.0002	0.001	0.0294	0.129	0.0200	0.108	0.002	0.007		
Dehy Dryer #5A-stage	EU_31	1.7800	7.80	0.0061	0.027	1.0196	4.466	0.8600	3.751	0.056	0.246		
Dehy Dryer #5B-stage	EU_32	0.7700	3.40	0.0019	0.008	0.3137	1.374	0.2600	1.154	0.017	0.076		
Dehy Dryer #5C-stage	EU_33	0.7700	3.40	0.0019	0.009	0.3235	1.417	0.2700	1.190	0.018	0.078		
Dehy Bin Dryer	EU_34	0.6300	2.80										
Dehy research Dryer	EU_39	0.1820	0.80	0.0010	0.0020	0.0863	0.378	0.0700	0.317	0.005	0.021		
Packaging Baghouse #1	EU_40	0.0001	4.74E-04										
Packaging Baghouse #2	EU_41	0.0003	1.32E-03										
Crush Room Baghouse #1	EU_42	0.0001	4.74E-04										
Crush Room Baghouse #2	EU_43	0.0003	1.32E-03										
Dehy Steam Peeler	EU_44	0.1600	0.70										







	<b>DEQ AIR QUALITY PROGRAM</b> 1410 N. Hilton Boise, ID 83706 For assistance: (208) 373-0502		<b>PERMIT TO CONSTRUCT APPLICATION</b>										
	Company Name: Nonpareil Corporation Facility Name: Same Facility ID No.: 011-00027 Brief Project Description: Install new boiler to replace existing east processing boiler												
<b>SUMMARY OF EMISSIONS INCREASE (PROPOSED PTE - PREVIOUSLY MODELED PTE) - POINT SOURCES</b>													
		<b>3.</b>											
<b>1.</b>	<b>2.</b>	<b>PM<sub>10</sub></b>		<b>SO<sub>2</sub></b>		<b>NO<sub>x</sub></b>		<b>CO</b>		<b>VOC</b>		<b>Lead</b>	
<b>Emissions units</b>	<b>Stack ID</b>	<b>lb/hr</b>	<b>T/yr</b>	<b>lb/hr</b>	<b>T/yr</b>	<b>lb/hr</b>	<b>T/yr</b>	<b>lb/hr</b>	<b>T/yr</b>	<b>lb/hr</b>	<b>T/yr</b>	<b>lb/hr</b>	<b>T/yr</b>
<b>Point Source(s)</b>													
Processing East boiler Oil	EU_01	-4.00	-14.83	-42.06	-156.67	-8.05	-29.57	1.06	2.00	-0.26	-0.92		
Processing East boiler NG	EU_01 NG	0.10	0.42	0.01	0.03	0.63	2.77	1.06	4.66	0.07	0.30		

Processing East Boiler Oil = Emission increase ( New East Boiler #2 fuel oil – Existing East Boiler #6 fuel oil)

Processing East Boiler NG= Emission increase ( New East Boiler NG – Existing East Boiler NG)

	<b>DEQ AIR QUALITY PROGRAM</b> 1410 N. Hilton Boise, ID 83706 <b>For assistance: (208) 373-0502</b>		<b>PERMIT TO CONSTRUCT APPLICATION</b>					
<b>Company Name:</b>		Nonpareil Corporation						
<b>Facility Name:</b>		Same						
<b>Facility ID No.:</b>		011-00027						
<b>Brief Project Description:</b>		Install new boiler to replace existing east processing boiler						
<b>SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS</b>								
		1.		2.	3.	4.		5.
Criteria Pollutants	Averaging Period	Significant Impact Analysis Results (µg/m3)	Significant Contribution Level (µg/m3)	Full Impact Analysis Results (µg/m3)	Background Concentration (µg/m3)	Total Ambient Impact (µg/m3)	NAAQS (µg/m3)	Percent of NAAQS
PM <sub>10</sub>	24-hour	0.11	5				150	
	Annual	0.00	1				50	
SO <sub>2</sub>	3-hr	0.08	25				1300	
	24-hr	0.01	5				365	
	Annual	0.00	1				80	
NO <sub>2</sub>	Annual	0.01	1				100	
CO	1-hr	14.60	2000				10000	
	8-hr	10.90	500				40000	

		<b>DEQ AIR QUALITY PROGRAM</b> 1410 N. Hilton Boise, ID 83706 For assistance: (208) 373-0502		<b>PERMIT TO CONSTRUCT APPLICATION</b>						
Company Name:		Nonpareil Corporation								
Facility Name:		Same								
Facility ID No.:		011-00027								
Brief Project Description:		Install new boiler to replace existing east processing boiler								
<b>POINT SOURCE STACK PARAMETERS</b>										
1.	2.	3a.	3b.	4.	5.	6.	7.	8.	9.	10.
<b>Emissions units</b>	<b>Stack ID</b>	<b>UTM Easting (m)</b>	<b>UTM Northing (m)</b>	<b>Base Elevation (m)</b>	<b>Stack Height (m)</b>	<b>Modeled Diameter (m)</b>	<b>Stack Exit Temperature (K)</b>	<b>Stack Exit Flowrate (acfm)</b>	<b>Stack Exit Velocity (m/s)</b>	<b>Stack orientation (e.g., horizontal, rain cap)</b>
<b>Point Source(s)</b>										
Processing East boiler #6	EU_01 Oil	388318	4784088	1365	18.30	0.711	483.00	9,400.00	11.50	Vertical
Processing East boiler #2	08_01 Oil	388318	4784088	1365	18.30	0.914	442.00	13,952.00	10.03	Vertical
Processing East NG Current	EU_01 NG	388318	4784088	1365	7.92	0.711	483.00	9,400.00	11.50	Vertical
Processing East boiler NG New	08_01 NG	388318	4784088	1365	13.72	0.914	442.00	14,353.00	10.31	Vertical

## **Boiler Spec Sheet**

NEBRASKA BOILER COMPANY  
BOILER PERFORMANCE SUMMARY

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NBC FILE NAME       : Lucent Tech. (Turner Const)
PROPOSAL/JOB NUMBER : JM-2943/44
ENGINEER           : VPS
BOILER NUMBER      : NS-C-50-ECON
FUEL FOR SIZING    : #2 OIL
BOILER DESIGN      : 165 PSIG
PAGE              : 4 OF 4
DATE              : 01-19-1998
CAPACITY          : 40000 PPH
PERCENT CAPACITY  : 100 %
=====
  
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=====
FUELS REVIEWED      NATURAL GAS      #2 OIL
=====
STREAM FLOW          (PPH) : 40,000.00 : 40,000.00
FINAL STEAM PRESS    (PSIG) : 110.00 : 110.00
FINAL STEAM TEMP      (F) : 344.00 : 344.00
COMBUSTION AIR TEMP   (F) : 80.00 : 80.00
ECON WATER SUPPLY TEMP (F) : 228.00 : 228.00
ECON WATER EXIT TEMP  (F) : 272.00 : 272.00
ECON WATER FLOW       (PPH) : 41,200.00 : 41,200.00
BOILER WATER FLOW     (PPH) : 41,200.00 : 41,200.00
BOILER GAS EXIT TEMP  (F) : 490.00 : 495.00
ECON GAS EXIT TEMP    (F) : 335.00 : 334.00
COMBUSTION AIR FLW    (LBS/HR) : 40,800.00 : 39,400.00
COMBUSTION GAS FLW    (LBS/HR) : 43,000.00 : 41,800.00
EXCESS AIR            (%) : 15.00 : 15.00
HEAT RELEASE          (BTU/HR-CUFT) : 52,800.00 : 50,400.00
HEAT RELEASE          (BTU/HR-FT2) : 91,400.00 : 87,100.00
HEAT ABSORBED         (BTU/HR-FT2) : 36,300.00 : 38,100.00
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HHV OF FUEL          (BTU/LB) : 21,800.00 : 19,460.00
HHV OF FUEL          (BTU/ ) : 1,000.00 : 139,300.00
LHV OF FUEL          (BTU/LB) : 0.00 : 0.00
LHV OF FUEL          (BTU/ ) : 0.00 : 0.00
FUEL FLOW            (LBS/HR) : 2,200.00 : 2,400.00
FUEL FLOW            ( /HR) : 48,400.00 : 300.00
KBH FUEL INPUT       (KBTU/HR) : 48,400.00 : 46,100.00
BOILER GAS PRESS DROP (IN.) : 1.22 : 1.16
ECON GAS PRESS DROP  (IN.) : 1.26 : 1.18
Burner               (IN.) : 6.00 : 6.00
OPTION #2            (IN.) : 0.00 : 0.00
OPTION #3            (IN.) : 0.00 : 0.00
OPTION #4            (IN.) : 0.00 : 0.00
TOTAL GAS PRESS DROP (IN.) : 8.49 : 8.34
=====
  
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=====
HEAT LOSS DRY GAS    (% ASF) : 4.81 : 5.10
HEAT LOSS FUEL H2O   (% ASF) : 0.00 : 0.00
HEAT LOSS FUEL H2    (% ASF) : 10.89 : 6.59
HEAT LOSS REFUSE     (% ASF) : 0.00 : 0.00
HEAT LOSS AIR H2O    (% ASF) : 0.13 : 0.13
HEAT LOSS RADIATION  (% ASF) : 0.76 : 0.76
UNMEASURED LOSSES    (% ASF) : 1.00 : 1.00
HEAT LOSS TOTAL      (% ASF) : 17.59 : 13.58
HEAT LOSS EFFICIENCY (%) : 82.41 : 86.42
=====
  
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Nebraska Boiler Company - I94005016

**APPENDIX D**  
**MODELING REPORT**

**Air Quality Modeling Report**  
**Nonpareil Corporation, Blackfoot, Idaho**  
**April 2008**

**1.0 PURPOSE**

This air quality modeling report describes modeling prepared to support a proposed modification to the facility's current permit P-050300. Nonpareil Corporation (Nonpareil) proposes to construct a new east processing boiler, at their existing facility in Blackfoot, Idaho. The new boiler will replace the existing east processing boiler which failed in early March. The new boiler is capable of combusting natural gas or No. 2 fuel oil. The project is considered high priority because the facility's production capability will be limited until the replacement boiler is in place. This document describes the air quality analyses prepared to support the Permit to Construct (PTC) application for the proposed east boiler replacement at their facility just west of Blackfoot, Idaho.

**1.1 INTRODUCTION**

This modeling analysis was prepared consistent with an IDEQ-approved modeling protocol to support the facility's PTC application for the proposed east boiler replacement. This report documents air quality modeling results and compares those results against applicable impact limits. The results in this modeling report are consistent with those presented in draft in the IDEQ-approved modeling protocol for this project. They differ only in that in addition to the worst-case scenario and analysis described in the modeling protocol, a second scenario was included to show that when run on natural gas, the change in impacts with the proposed action would not represent a significant increase in impacts. That scenario was conservatively included in order to address the potential impacts resulting from both operating scenarios permitted for the east boiler. Both operating scenarios, natural gas and fuel oil were modeled to show that the proposed replacement of boiler 1 would not result in a significant increase in impacts using either fuel. Figure 1 below shows the facility location.

The model chosen is AERMOD, the US EPA approved model recommended by IDEQ. AERMOD has recently replaced the Industrial Source Complex model ISCST3 as the primary recommended model for facilities with multiple emission sources. AERMOD was applied as recommended in EPA's Guideline on Air Quality Models, consistent with guidance in IDEQ's Air Quality Modeling Guideline. The model was applied exactly as described in the IDEQ-approved modeling protocol. Attachment B documents the IDEQ protocol approval. Recommended regulatory default options were employed. Terrain data was processed consistent with the IDEQ guidance, discussions with IDEQ's Mr. Schilling, and EPA guidance for AERMAP, as documented in the IDEQ-approved modeling protocol. Meteorological data recommended for this application was supplied by IDEQ. The Prime building downwash algorithm was employed. Modeling analyses were performed for all pollutants emitted above IDEQ emission thresholds, even though the proposed action represented a net decrease in emissions for almost all those pollutants. That included PM-10, NO<sub>2</sub>, CO and SO<sub>2</sub>, and toxic air pollutants (TAPs) exceeding the IDAPA 58.01.01.585 or 586 emission levels (ELs). The impact analyses assess the potential increase in impacts from the boiler as a result of the proposed replacement. The analyses show that few increases in impacts will occur. Maximum impact increases will be insignificant for criteria pollutants and within IDAPA 58.01.01.585 AAC or 586 AACC impact limits for TAPs. Chemical transformation of emissions was not considered.



### 1.3 EMISSION AND SOURCE DATA

Model stack and emissions data representative of the worst case emissions at the Nonpareil boiler for each of the fuel options before and after the proposed action were incorporated directly into the air quality modeling analysis. As described in the introduction, in addition to the worst-case emissions scenario burning fuel oil described in the modeling protocol, a second scenario was added to show that there would also be no significant increase in impacts when the replacement boiler burns natural gas. The fuel oil scenario described in the modeling protocol generally represented a decrease in emissions for all criteria pollutants and most TAPs. Four IDAPA TAPs will see an increase in potential emissions when burning fuel oil, three TAPs will see increases in potential emissions under the natural gas scenario. Existing boiler stack parameters are consistent with permit P-0050300 and are the same as used in IDEQ-approved 2006 facility permit modeling. Consistent with the current permit, the current stack height is 26 feet, but the stack must be raised to 60 feet before fuel oil is combusted. No fuel oil has been used since the permit was issued. The proposed replacement boiler was modeled with stack parameters based upon the engineering specifications for the new boiler. Please note that those specifications for the replacement boiler include a slight difference in exit velocity for the two fuels, but no other differences in model stack parameters. The proposed boiler stack height will be raised to 45 feet initially when operating on natural gas and 60 feet prior to fuel oil being combusted. Emission rates modeled for each pollutant are the maximum permitted boiler emissions under the proposed action over the duration of the standard for that pollutant. For the fuel burning scenario, the emission rate modeled is the maximum allowable under the permit burning any fuel for the duration of the respective averaging period. In every case except CO, the worst-case scenario represents burning fuel oil as much as allowed (requested and currently permitted fuel limits), then burning natural gas for the rest of the year (for annual average impact analyses). Since natural gas combustion has a higher CO emission factor, the fuel oil scenario includes natural gas CO emission rates since CO has only short term impact limits and fuel oil can not be combusted year-round. Emissions for the proposed replacement boiler were entered as positive along with stack parameters consistent with the new boiler, emissions from the currently permitted boiler were entered as negative along with current actual and permitted stack parameters. These model results show the maximum increase in pollutant impacts from the proposed boiler replacement. Those impact increases are quite small, since the proposed action would result in a net decrease in all criteria pollutant PTE during worst-case scenarios when burning fuel oil and small increases in emissions when burning natural gas. In addition, the natural gas scenario is offset by raising the stack height to GEP. The TAPs modeled under each operating scenario resulted in net decreases or very small increases for all TAPs. The derivation of all emission rates is documented in the permit application this modeling report accompanies.

The emissions from the proposed replacement boiler under the two fuel scenarios were estimated to exceed IDEQ modeling thresholds for criteria pollutants PM-10, NOx, SO2, and CO, and six IDAPA 58.01.01.586 TAPs. The maximum increase in impacts for all those pollutants as a result of the proposed action was estimated by modeling all criteria pollutant and all TAPs that showed a net increase in emissions under either scenario. Impact assessment requirements are met by showing that the maximum increase in impacts as a result of the proposed action, under either fuel option, is below the significant impact levels (SILs) for all criteria pollutants, and below IDAPA 58.01.01.586 AACC impact limits for all the TAPs emitted above IDAPA 58.01.01.586 EL thresholds.

Table 1 summarizes all model source data consistent with the proposed modification for both fuel scenarios. The printed spreadsheet describing derivation of the worst case model source data, and IDEQ's concurrence with the methodology is in Attachment C. The version in Attachment B documents how all model source parameters were derived. The file Nonpareil Model Source Data Change 041008.xls provides the same spreadsheet in the zipped electronic files.

Modeling analyses were performed for all pollutants listed in Table 1 to estimate maximum increase in impacts during each averaging period for which an applicable ambient air quality impact limit exists. All model sources had emissions understood to represent worst-case permitted emissions for each averaging period (positive for the proposed replacement boiler, negative for the permitted boiler to be replaced) to estimate the worst case increase in impacts under proposed emissions from the replacement boiler. The stack parameters represent manufacturer's specifications and worst-case emissions scenarios for each fuel option with the replacement boiler, and the same for the currently permitted boiler with data consistent with permit P-050300. Potential worst-case increases in impacts for each pollutant and averaging period were directly output by the model. All model source data underwent quality assurance review by JBR Environmental, and the facility owners and representatives (with information from manufacturer's of the proposed replacement boiler).

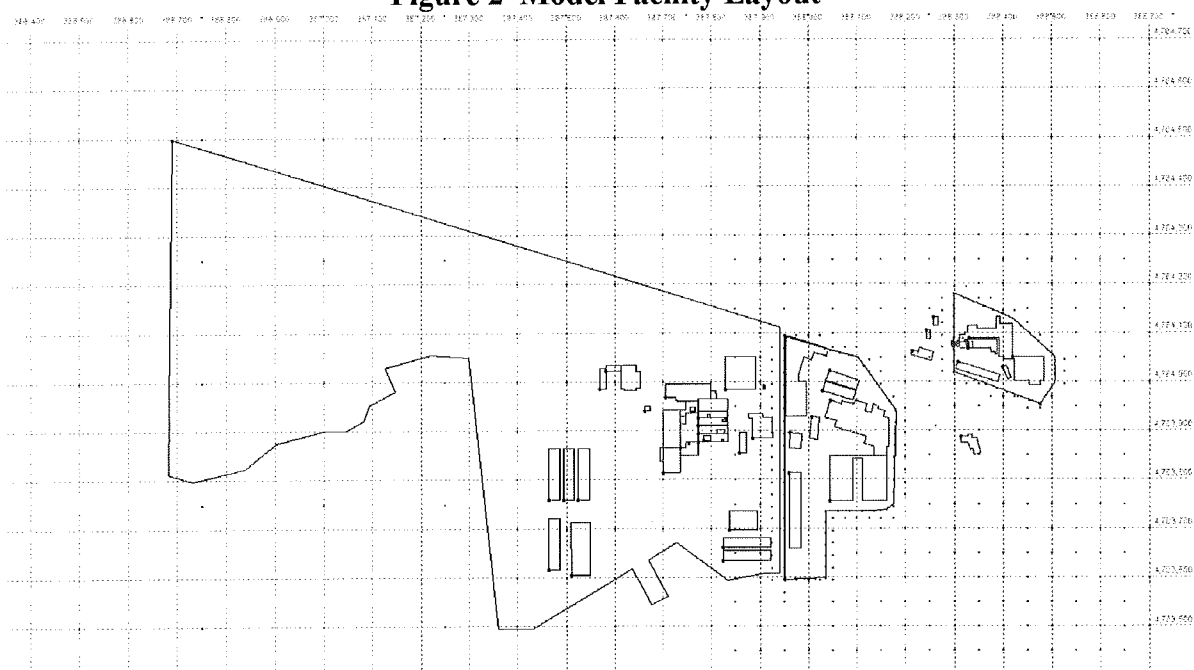
**Table 1 Model Source data**

Source ID	Stack Rel Type	Source Description	Easting (X)	Northing (Y)	Base Elev	Stk Ht	Te mp	Exit Vel	Stack Diam	SO2	PMT EN	CO	PMTE NAN	SO2	NO2	ARSENIC	BERYLL	CADMIU M	CHRVl	FORMAL D
			m	m	m	ft	°F	m/s	m	lb/hr	lb/hr	lb/hr	tons/yr	tons/yr	tons/yr	ton/yr	ton/yr	ton/yr	ton/yr	ton/yr
EU_01	DEF	Processing East boiler #6 current	388318	4784088	1365	60	410	11.50	0.711	66.54	5.12	3.34	19.27	247.88	56.62		2.83E-05	4.29E-04	2.49E-04	3.51E-02
08_01	DEF	Processing East boiler #2 new	388318	4784088	1365	60	335	10.03	0.914	24.48	1.12	4.40	4.44	91.21	27.04		5.32E-04	5.70E-04	5.32E-04	4.44E-02
EU_01_NG	DEF	Processing East NG Current	388318	4784088	1365	26	410	11.50	0.711	0.0238	0.302	3.34	1.32	0.1043	8.70	3.48E-05		1.91E-04		1.30E-02
08_01_NG	DEF	Processing East boiler NG New	388318	4784088	1365	60	335	10.31	0.914	0.0314	0.398	4.40	1.74	0.1376	11.47	4.59E-05		2.52E-04		1.72E-02

Building downwash was accounted for by including in the AERMOD model analysis Prime building downwash from all buildings within the facility, and at the neighboring Basic American Foods (BAF) facility, exactly as described in the IDEQ-approved modeling protocol. All Nonpareil buildings and tanks over 10' tall are included in the building downwash analysis included in the modeling, and all BAF building information supplied by IDEQ was utilized. Attachment A provides a summary of the building downwash run analysis and results from the BPIP-Prime input and output files.

Figure 2 shows the model layout, with the facility property / ambient air boundary. The ambient air boundaries, buildings, and boiler model sources are exactly the same as used in the approved 2006 permit modeling analysis. The Nonpareil boundary can be seen in two separate sections on the right of the figure. The larger black perimeter on the left side of the figure is the BAF property and ambient air boundary. Note that this analysis has receptors across the BAF boundary. Facility buildings and tanks are shown in black within the facility boundary, and facility boiler emission sources are shown and labeled in red (on the northeast Nonpareil parcel). The background grid is the UTM coordinate system, NAD 27, with units in meters. The dots beyond the property boundary indicate the inner-most model receptors. The inner receptor network also matches that used in the IDEQ-approved 2006 permit modeling.

**Figure 2 Model Facility Layout**



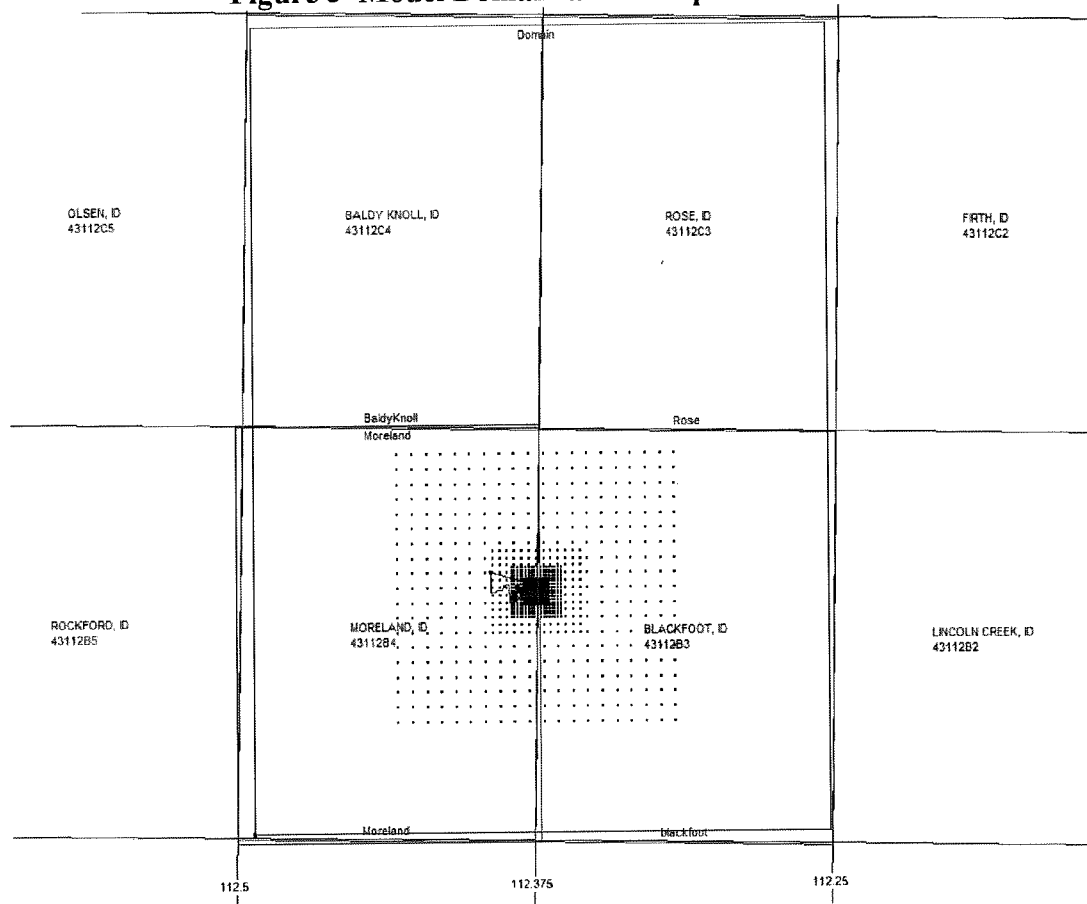
#### **1.4 RECEPTOR NETWORK / MODEL DOMAIN**

The Nonpareil property boundary / public access limit was used as the ambient air boundary for this analysis, exactly as described in the IDEQ-approved modeling protocol and consistent with the draft modeling run examples provided with that submittal. The BAF property boundary / public access limit is shown, but receptors were placed regularly across the BAF property. Model receptors were placed from the public access limit out at least 4 kilometers in every direction. The dense inner model receptors can be seen as black dots outside the ambient air boundary in Figure 2. The AERMOD modeling domain was conservatively calculated to include nearly the entire USGS quad for any receptor or any elevated point beyond the edge of the receptor network that meets the AERMAP / AERMOD guidance condition of 10% elevation gain. This method is built into the BeeLine BEEST software used to prepare these analyses, and is recommended as conservative in meeting or exceeding new EPA guidance by software developer Dick Perry of Bee-Line software.

Receptor density is 25 meters along the ambient air boundary, 50 meters for at least the first 100 meters, then 100 meters out to 500 meters away from the property boundary, 250 meters out to 1,000 meters from the ambient air boundary, 500 meters to 4 kilometers.

Figure 3 shows the facility and its ambient air boundary (the white spot in the middle of dense inner receptor network that show up as black in the center), the receptor network (the black dots around the denser inner model receptors), the model domain (green line just inside USGS quad lines around the receptor network), the latitude and longitude grids in the vicinity, and the USGS quad maps that cover the model domain.

**Figure 3 Model Domain and Receptor Network**



All model predicted maximum impact increases greater than 1.1% of applicable impact limits occurred within 1 kilometer of the ambient air boundary, within the 100 meter grid density. All other maximum impact increases, none greater than 1.1% of applicable impact limits, occurred within 1.5 kilometers of the facility in 250 meter grid spacing. Few impact increases approached applicable SILs or AACC impact limits. The maximum impacts are shown to drop off considerably moving toward the outer edge of the receptor network.

The receptor networks employed ensured that the analysis meets or exceeds IDEQ receptor network requirements and capture the maximum impact from the facility. Therefore, no supplemental receptor network or expansion of the model domain was required or included.

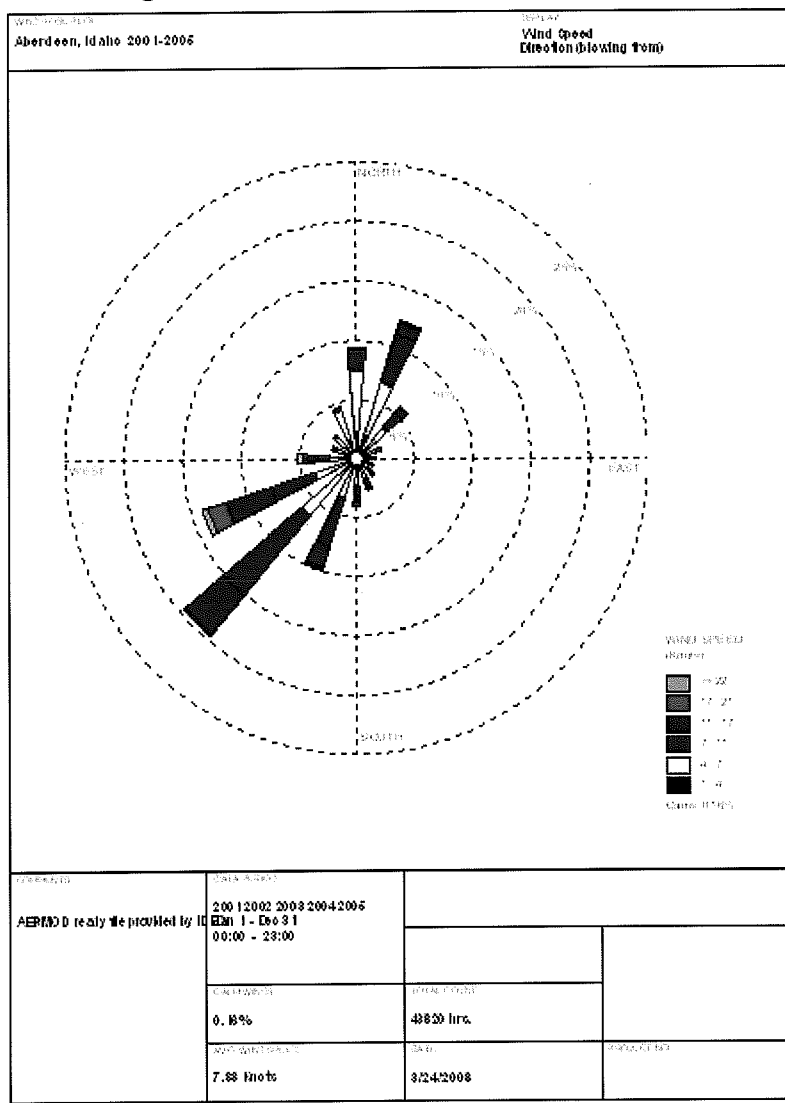
## **1.5 AERMAP INPUT AND ELEVATION DATA**

Geographic data was processed exactly as described in the IDEQ-approved modeling protocol, consistent with the examples provided with that protocol. All building and source base and receptor elevations were calculated from USGS 7.5-degree (30m or less horizontal resolution) DEM data (UTM NAD 27) downloaded from Geo Community ([www.geocommunity.com](http://www.geocommunity.com)), the USGS freeware download system, using the Bee-Line BEEST preprocessing system. That same DEM data was used in the AERMAP preprocessor to prepare the terrain data for the model domain to run AERMOD. The anchor location and user location required by AERMAP was near the center of the northeastern Nonpareil facility section, near the boiler. Electronic data files sufficient to review or duplicate the AERMAP model application are included with this report.

## **1.6 METEOROLOGICAL DATA AND LOCAL PARAMETERS**

Model meteorological data recommended for use in this analysis was provided by IDEQ, and was applied exactly as described in an IDEQ-approved modeling protocol and consistent with the draft modeling runs provided with that protocol. The surface data provided was collected from 2001 to 2005 in Aberdeen, Idaho in five annual files. It was processed along with Boise upper air data. The only change made during modeling was to adjust the onsite data site number from 99999 to 24999, because the model wouldn't run with the 99999 location which indicates an unknown site. The adjusted meteorological data files are included in the zipped electronic files accompanying this submission. Limited information was available on the source of that meteorological data file or exact monitoring location. No wind flow direction alternation was applied. Initial indications are that the wind flow direction for the Aberdeen data was reasonably representative of the site, but the stability profile there seemed to be influenced by lake breezes that were questionably representative but yielded conservative results. Default meteorological settings were employed. Nonpareil reserves the right to consider more representative meteorological data, or an alternative representation of this data, for future modeling analyses. Modeling analyses were prepared for the complete extent of the five year meteorological data file IDEQ provided. Figure 4 shows the wind rose for the Aberdeen meteorological data file used in the modeling.

**Figure 4 Aberdeen 2001 - 2005 Wind Rose**





## 1.8 BACKGROUND CONCENTRATIONS

Background concentrations to be used were recommended by Mr. Schilling of IDEQ in 2006 for the previous permit analysis. He again confirmed the same background concentrations for the current time. The Basic American Foods facility just W and SW of the Nonpareil facility is potential source of cocontributing pollutants. For previous NAAQS analyses, Mr. Schilling recommended modeling BAF as a cocontributor, and using a buffer for PM-10 impacts because IDEQ could not provide a current BAF PM-10 emission inventory. For this analysis, though, as described in the IDEQ-approved modeling protocol no background concentrations or cocontributing sources were included because the analysis shows that the change in impact from the current permitted actions would not result in a significant increase in criteria pollutant impacts, nor an exceedance of IDAPA TAP impact limits.

## 1.9 EVALUATION OF COMPLIANCE WITH IMPACT STANDARDS

The impact limit standards applicable to this analysis are the significant impact levels (SILs) for criteria pollutants, and the IDAPA 58.01.01.585 and 586 limits for TAPs listed in Table 4. Model predicted maximum increases in impacts reported are the highest predicted impact for the all average periods and for all TAP analyses, consistent with the modeling protocol and conservatively interpreting IDEQ and EPOA guidance. Table 2 shows the maximum model predicted increase in impact each year for each pollutant for each averaging period modeled for the fuel oil combustion scenario. Table 3 shows the same for the natural gas combustion scenario. The maximum impact for any of the five years is printed in bold.

**Table 2 Maximum Model Predicted Impact Increases with Fuel Oil ( $\mu\text{g}/\text{m}^3$ )**

Pollutant	Averaging Period	2001	2002	2003	2004	2005
<b>PM<sub>10</sub></b>	24 hour	0.00	0.00	0.00	0.00	0.00
	annual	0.00	0.00	0.00	0.00	0.00
<b>NO<sub>2</sub></b>	Annual	0.00	0.00	0.00	0.00	0.00
<b>SO<sub>2</sub></b>	3 hour	<b>0.00168</b>	0.00023	0.00114	0.00002	0.00007
	24 hour	0.00007	0.00003	<b>0.00017</b>	0.00	0.00
	Annual	0.00	0.00	0.00	0.00	0.00
<b>CO</b>	1 hour	3.5	3.4	3.4	3.3	3.4
	8 hour	2.7	2.9	3.0	3.2	3.1
<b>Lead</b>	Monthly	0.00	0.00	0.00	0.00	0.00
<b>Arsenic</b>	Annual	0.00	0.00	0.00	0.00	0.00
<b>Beryllium</b>	Annual	<b>0.00004</b>	<b>0.00004</b>	<b>0.00004</b>	<b>0.00004</b>	0.00003
<b>Cadmium</b>	Annual	<b>0.00001</b>	<b>0.00001</b>	<b>0.00001</b>	<b>0.00001</b>	<b>0.00001</b>
<b>Chromium VI</b>	Annual	<b>0.00004</b>	<b>0.00004</b>	<b>0.00004</b>	<b>0.00004</b>	0.00003
<b>Formaldehyde</b>	Annual	0.00121	0.00127	<b>0.00133</b>	0.00118	0.00108

**Table 3 Maximum Model Predicted Impact Increases with Natural Gas ( $\mu\text{g}/\text{m}^3$ )**

Pollutant	Averaging Period	2001	2002	2003	2004	2005
<b>PM<sub>10</sub></b>	24 hour	0.090	0.091	0.097	0.084	<b>0.108</b>
	annual	0.00008	0.00116	0.00118	<b>0.00159</b>	0.00109
<b>NO<sub>2</sub></b>	Annual	0.00547	0.00765	0.00782	<b>0.0105</b>	0.00721
<b>SO<sub>2</sub></b>	3 hour	0.077	0.078	0.070	<b>0.084</b>	0.059
	24 hour	0.007	0.007	0.008	0.007	<b>0.009</b>
	Annual	0.00007	0.00009	0.00009	<b>0.00013</b>	0.00009
<b>CO</b>	1 hour	13.2	<b>14.6</b>	13.4	13.9	13.0
	8 hour	5.4	5.1	5.8	<b>10.9</b>	4.7
<b>Lead</b>	Monthly	0.00	0.00	0.00	0.00	0.00
<b>Arsenic</b>	Annual	0.00	0.00	0.00	0.00	0.00
<b>Cadmium</b>	Annual	0.00	0.00	0.00	0.00	0.00
<b>Formaldehyde</b>	Annual	0.00001	0.00001	0.00001	<b>0.00002</b>	0.00001

Table 4 reports predicted maximum model predicted impacts from either scenario and associated worst-case ambient concentrations as a result of the proposed action. This table and the tables above provide all model impact results required on the IDEQ MI forms. Predicted maximum increases in impact do not to approach or exceed any applicable impact standard.

**Table 4**  
**Background Concentrations, Ambient Impact Limits**  
**and Method of Comparison with Ambient Air Quality Standards**

Pollutant	Averaging Period	Modeled Maximum Increase in Impact ( $\mu\text{g}/\text{m}^3$ )	IDEQ AACC ( $\mu\text{g}/\text{m}^3$ )	SIL ( $\mu\text{g}/\text{m}^3$ )	Max Increase as % of applicable Impact limit
PM <sub>10</sub>	24-hour	0.108	-	5	2.2%
PM <sub>10</sub>	Annual	0.00159	-	1	0.2%
NO <sub>2</sub>	Annual	0.0105	-	1	1.1%
SO <sub>2</sub>	3-hour	0.084	-	25	0.3%
	24-hour	0.0086	-	5	0.2%
	Annual	0.00013	-	1	0.01%
CO	1-hour	14.6	-	2000	0.7%
	8-hour	10.9	-	500	2.2%
Arsenic	Annual	0.00	0.00023		0.0%
Beryllium	Annual	0.00004	0.0042		9.5%
Cadmium	Annual	0.00001	0.00056		1.8%
Chromium VI	Annual	0.00004	0.000083		48.2%
Formaldehyde	Annual	0.00133	0.077		1.7%
Nickel	Annual	0.00	0.0042		0.0%

Maximum model predicted increase in impacts for each pollutant and averaging period occurred to the NE of the boiler and the NE half of the Nonpareil property. All maximum increases in impact over 1.1% of the applicable impact standards occurred within the 100 meter grid density within 1 kilometer of the Nonpareil facility. The maximum impact

increases for annual PM-10, NO<sub>2</sub>, SO<sub>2</sub>, and 24 hour average SO<sub>2</sub>, none more than 1.1% of the applicable impact limits, occurred just beyond the 100 meter grid spacing in 250 meter grid spacing approximately 1.5 km NE of the NE Nonpareil parcel. The maximum increase in impacts was from the natural gas operating scenario for the criteria pollutants, and from the fuel oil operating scenario for the TAPs. Those maximum impact increases are shown to be well below all applicable SIL impact limits for all criteria pollutants, no more than 2.2% of any SIL. No TAP impact increases will reach half their applicable IDAPA 58.01.01.586 AACC impact limits. Only one TAP, chromium VI, will see increases in impacts more than 10% of the applicable AACC.

Figure 5 shows the maximum model predicted annual average facility increase in chromium VI impacts. That is the only pollutant for which predicted increases in impacts exceed 10% of the applicable impact limit. Color coding shows the maximum facility impacts occurring off the northeastern Nonpareil property boundary, northeast of the boiler proposed to be replaced. Increases in impacts are predicted to be near zero in most other locations, and lower around other portions of the property boundary vicinity. All receptors with predicted maximum annual average increases in chromium VI impacts over 0.00001 ug/m<sup>3</sup> (12% of the AACC) are shown in bold. As with all other pollutants, predicted impacts drop off promptly and continuously away from the ambient air boundary.

**Figure 5 Model Predicted Maximum Annual Average Chromium VI Impacts**



### **1.10 ELECTRONIC COPIES OF THE MODELING FILES**

Electronic copies of all input, output, and support modeling files necessary to duplicate the model results are provided and accompany this submission in file “Nonpareil 0408 Boiler Replacement AQ Modeling Files.zip”. Those files include:

- Nonpareil 0308 changes\_yy\_pp.ext and Nonpareil 0308 changes NG\_yy\_pp.ext, where  
NG designates runs for the Natural gas scenario; no NG identifies fuel oil scenarios,  
yy = year, from 01 to 05 for 2001 to 2005  
pp = the pollutant ID as in Table 1, and  
ext = .DAT for AERMOD input files, .LST for AERMOD model output files
- Nonpareil AERMAP files named NONPAREIL AERMAP.\*, and the BeeLine .txt file documenting AERMAP domain determination
- The IDEQ provided ABERDEENyy CJ.PFL and SFC AERMET meteorological data files, where yy = year, from 01 to 05 for 2001 to 2005
- BPIP files Nonpareil 0308 changes.\* and BPIP files Nonpareil 0308 changes NG.\*
- Model source data and the derivation of worst case emission rates used on the Nonpareil Model Source Data change 041008.xls spreadsheet, providing an electronic version of information included in Table 1 and Attachment B

### **IDEQ MI FORMS**

The information required on the IDEQ MI forms is included in the following places:

- Model source data is in Table 1, and on the Nonpareil Model Source Data change 041008.xls spreadsheet included in the zipped electronic files
- Building data is included in Attachment A, and in the five BPIP-Prime files for each scenario included in the electronic data submission, including BPIP input and output files
- Model results are included in Tables 2, 3, and 4

All that information is also included in the BEEST modeling file, and/or the model input and output files included in electronic form.

## Attachment A

### BPIP-Prime Model Input and Output Data Summary (fuel oil scenario, only difference in natural gas scenario is lower permit boiler stack heights)

BEE-Line Software Version: 9.95

Input File - Nonpar 0308 changes.PRW  
Input File - Nonpar 0308 changes.PIP  
Output File - Nonpar 0308 changes.TAB  
Output File - Nonpar 0308 changes.SUM  
Output File - Nonpar 0308 changes.SO

BPIP (Dated: 04274)

DATE : 03/27/2008

TIME : 12:59:29 PM

C:\JBR\Nonpareil\Nonpareil 0308 changes.BST BEESTWin BPIP-Prime Files  
3/27/200

=====  
BPIP PROCESSING INFORMATION:  
=====

The P flag has been set for preparing downwash related data  
for a model run utilizing the PRIME algorithm.

Inputs entered in METERS will be converted to meters using  
a conversion factor of 1.0000. Output will be in meters.

The UTM variable is set to UTM. The input is assumed to be in  
UTM coordinates. BPIP will move the UTM origin to the first pair of  
UTM coordinates read. The UTM coordinates of the new origin will  
be subtracted from all the other UTM coordinates entered to form  
this new local coordinate system.

Plant north is set to 0.00 degrees with respect to True North.

C:\JBR\Nonpareil\Nonpareil 0308 changes.BST BEESTWin BPIP-Prime Files  
3/27/200

#### PRELIMINARY\* GEP STACK HEIGHT RESULTS TABLE (Output Units: meters)

Stack Name	Stack Height	Stack-Building Base Elevation Differences	GEP** EQN1	Preliminary* GEP Stack Height Value
EU_01	18.29	-0.50	13.07	65.00
08_01	18.29	-0.50	13.07	65.00

- \* Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration.
- \*\* Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences.

Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the GEP Technical Support Document.

BPIP (Dated: 04274)

DATE : 03/27/2008  
TIME : 12:59:29 PM

C:\JBR\Nonpareil\Nonpareil 0308 changes.BST BEESTWin BPIP-Prime Files  
3/27/200

BPIP output is in meters

SO BUILDHGT EU_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDHGT EU_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDHGT EU_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDHGT EU_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDHGT EU_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDHGT EU_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDWID EU_01	186.52	194.37	196.32	193.37	188.59	179.66
SO BUILDWID EU_01	165.26	152.52	139.00	126.64	111.64	98.59
SO BUILDWID EU_01	98.28	112.60	134.32	151.96	164.99	173.00
SO BUILDWID EU_01	186.52	194.37	196.32	193.37	188.59	179.66
SO BUILDWID EU_01	165.26	152.52	139.00	126.64	111.64	98.59
SO BUILDWID EU_01	98.28	112.60	134.32	151.96	164.99	173.00
SO BUILDLEN EU_01	126.64	111.64	98.59	98.28	112.60	134.32
SO BUILDLEN EU_01	151.96	164.99	173.00	186.52	194.37	196.32
SO BUILDLEN EU_01	193.37	188.59	179.66	165.26	152.52	139.00
SO BUILDLEN EU_01	126.64	111.64	98.59	98.28	112.60	134.32
SO BUILDLEN EU_01	151.96	164.99	173.00	186.52	194.37	196.32
SO BUILDLEN EU_01	193.37	188.59	179.66	165.26	152.52	139.00
SO XBADJ EU_01	-71.10	-45.24	-22.48	-10.50	-10.63	-10.43
SO XBADJ EU_01	-9.91	-9.09	-8.00	-9.09	-9.91	-10.43
SO XBADJ EU_01	-10.63	-13.49	-17.52	-21.01	-30.54	-43.00
SO XBADJ EU_01	-55.54	-66.40	-76.11	-87.78	-101.97	-123.89
SO XBADJ EU_01	-142.05	-155.89	-165.00	-177.43	-184.46	-185.89
SO XBADJ EU_01	-182.74	-175.10	-162.14	-144.25	-121.98	-96.00
SO YBADJ EU_01	-84.17	-87.28	-87.73	-86.06	-80.81	-72.31
SO YBADJ EU_01	-61.62	-45.72	-26.50	-7.78	10.58	26.82
SO YBADJ EU_01	38.64	45.67	56.73	66.07	73.40	78.50
SO YBADJ EU_01	84.17	87.28	87.73	86.06	80.81	72.31

SO YBADJ	EU_01	61.62	45.72	26.50	7.78	-10.58	-26.82
SO YBADJ	EU_01	-38.64	-45.67	-56.73	-66.07	-73.40	-78.50
SO BUILDHGT	08_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDHGT	08_01	5.03	5.03	5.03	5.03	5.03	5.03
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SO BUILDHGT	08_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDHGT	08_01	5.03	5.03	5.03	5.03	5.03	5.03
SO BUILDWID	08_01	186.52	194.37	196.32	193.37	188.59	179.66
SO BUILDWID	08_01	165.26	152.52	139.00	126.64	111.64	98.59
SO BUILDWID	08_01	98.28	112.60	134.32	151.96	164.99	173.00
SO BUILDWID	08_01	186.52	194.37	196.32	193.37	188.59	179.66
SO BUILDWID	08_01	165.26	152.52	139.00	126.64	111.64	98.59
SO BUILDWID	08_01	98.28	112.60	134.32	151.96	164.99	173.00
SO BUILDLLEN	08_01	126.64	111.64	98.59	98.28	112.60	134.32
SO BUILDLLEN	08_01	151.96	164.99	173.00	186.52	194.37	196.32
SO BUILDLLEN	08_01	193.37	188.59	179.66	165.26	152.52	139.00
SO BUILDLLEN	08_01	126.64	111.64	98.59	98.28	112.60	134.32
SO BUILDLLEN	08_01	151.96	164.99	173.00	186.52	194.37	196.32
SO BUILDLLEN	08_01	193.37	188.59	179.66	165.26	152.52	139.00
SO XBADJ	08_01	-71.10	-45.24	-22.48	-10.50	-10.63	-10.43
SO XBADJ	08_01	-9.91	-9.09	-8.00	-9.09	-9.91	-10.43
SO XBADJ	08_01	-10.63	-13.49	-17.52	-21.01	-30.54	-43.00
SO XBADJ	08_01	-55.54	-66.40	-76.11	-87.78	-101.97	-123.89
SO XBADJ	08_01	-142.05	-155.89	-165.00	-177.43	-184.46	-185.89
SO XBADJ	08_01	-182.74	-175.10	-162.14	-144.25	-121.98	-96.00
SO XBADJ	08_01	-84.17	-87.28	-87.73	-86.06	-80.81	-72.31
SO YBADJ	08_01	-61.62	-45.72	-26.50	-7.78	10.58	26.82
SO YBADJ	08_01	38.64	45.67	56.73	66.07	73.40	78.50
SO YBADJ	08_01	84.17	87.28	87.73	86.06	80.81	72.31
SO YBADJ	08_01	61.62	45.72	26.50	7.78	-10.58	-26.82
SO YBADJ	08_01	-38.64	-45.67	-56.73	-66.07	-73.40	-78.50

## **Attachment B**

### **IDEQ Modeling Protocol Approval**

The Modeling Protocol submitted to IDEQ is included in the zipped electronic modeling files submitted with this analysis. IDEQ's approval of that protocol is included below.





STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 • (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR  
TONI HARDESTY, DIRECTOR

April 8, 2008

Chris Johnson  
Boise, Idaho

RE: Modeling Protocol for the Nonpareil Facility in Blackfoot, Idaho

Chris:

DEQ received your dispersion modeling protocol in on April 2, 2008. The modeling protocol was submitted on behalf of Naonpareil Corporation. The modeling protocol proposes methods and data for use in an ambient air impact analyses in support of a Permit to Construct application for a boiler replacement project their facility located in Blackfoot, Idaho.

DEQ's modeling staff considers the submitted dispersion modeling protocol to be approved. It should be noted, however, that the approval of this modeling protocol is not meant to imply approval of a completed dispersion modeling analysis. Please refer to the *State of Idaho Air Quality Modeling Guideline*, which is available on the Internet at [http://www.deq.state.id.us/air/permits\\_forms/permitting/modeling\\_guideline.pdf](http://www.deq.state.id.us/air/permits_forms/permitting/modeling_guideline.pdf), for further guidance.

To ensure a complete and timely review of the final analysis, our modeling staff requests that electronic copies of all modeling input and output files (including BPIP and AERMAP input and output files) are submitted with an analysis report. If DEQ provided model-ready meteorological data files, then these do not need to be resubmitted to DEQ with the application. If you have any further questions or comments, please contact me at (208) 373-0112.

Sincerely,

Kevin Schilling

Kevin Schilling  
Stationary Source Air Modeling Coordinator  
Idaho Department of Environmental Quality  
208 373-0112

## **Attachment C**

### **Expanded Model Source Data Documentation, with Documented Stack Parameter Derivation**

This section provides more detail on the Model Source Data shown in Table 1. This information is also included in electronic form in the Model Source Data spreadsheet in the zipped electronic files.

Source ID	Stack Release		Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (ft)	Temp. (°F)	Exit Velocity (m/s)	Stack Diameter (m)	SO2 (lb/hr)	PMTEN (lb/hr)	CO (lb/hr)	PMTEN (tons/yr)	SO2 (tons/yr)	NO2 (tons/yr)	ARSENIC (ton/yr)	BERYLL (ton/yr)	CADMIUM (ton/yr)	CHRVl (ton/yr)	FORMALD (ton/yr)	NICKEL (ton/yr)	LEAD (tpy)							
	Type	Source Description																											
Burning Fuel Oil																													
EU_01	DEFAULT	Processing East boiler #6	388318	4784088	1365	60.0	410.0	11.500	0.711	66.5400	5.1200	3.34	19.2700	247.8800	56.6200	Did not exceed screening for comparing #6 old to #2 new	2.83E-05	4.29E-04	2.49E-04	3.51E-02	Did not exceed screening for comparing #6 old to #2 new	1.53E-01							
08_01	DEFAULT	Processing East boiler #2	388318	4784088	1365	60.0	335.0	10.030	0.914	24.4800	1.12	4.40	4.4400	91.2086	27.0400		5.32E-04	5.70E-04	5.32E-04	4.44E-02		4.28E-01							
										-42.0600	-4.0000	1.0582	-14.8300	-156.6714	-29.5800		0.0005	0.0001	0.0003	0.0092		-0.0011							
										Compare max increase (max prop emiss - max cur permitted emiss) vs SILs										Compare max increase (max prop emiss - max cur permitted emiss) vs IDAPA 586 AAC									
Burning Natural Gas																													
EU_01_NG	DEFAULT	Processing East NG Current	388318	4784088	1365	26.0	410.0	11.500	0.711	0.0238	0.302	3.34	1.32	0.1043	8.70	3.48E-05	Did not exceed screening for comparing NG old to NG new	1.91E-04	Did not exceed screening for comparing NG old to NG new	1.30E-02	Did not exceed screening for comparing NG old to NG new	8.70E-01							
08_01_NG	DEFAULT	Processing East boiler NG New	388318	4784088	1365	60.0	335.0	10.310	0.914	0.0314	0.398	4.40	1.74	0.1376	11.47	4.59E-05		2.52E-04		1.72E-02		1.15E-01							
										Compare max increase (max prop emiss - max cur permitted emiss) vs SILs					0.0076	0.0962		1.0582		0.4230		0.0333	2.7668	1.11E-05	6.10E-05	0.0042	2.80E-01		
										Compare max increase (max prop emiss - max cur permitted emiss) vs SILs										Compare max increase (max prop emiss - max cur permitted emiss) vs IDAPA 586 AAC									

**APPENDIX E**

**PUBLIC MEETING NEWSPAPER ANNOUNCEMENT**

**COEUR D'ALENE (AP)** — A teenage boy and his father have been arrested in northern Idaho and officials say they plan to search a mountainside this weekend for the body of a man they say the teen fatally shot in 2006.

Joseph Arnold, 17, has been charged with voluntary manslaughter and was being held in the Region 1 Juvenile Detention Center in Coeur d'Alene.

His father, James Arnold, 45, was charged Wednesday in 1st District Court with one

felony count of concealing evidence. He was being held in the Benewah County Jail in St. Maries on \$100,000 bond.

Benewah County Prosecutor Douglas Payne said authorities believe that Joseph Arnold shot 41-year-old Robert J. Spray, and that Spray's body was then buried in the mountains by the teen and his father.

Payne said rumors had been circulating in the area for more than a year about what happened to Spray, but that recent information led to the questioning of several people.

"The case is still evolving pretty rapidly, and charges could change," Payne told the Coeur d'Alene Press. "By this week we had some very specific questions for some very specific people."

He said that, according to witnesses, Spray had been drinking in the small logging town of St. Maries with the elder Arnold before both went to Arnold's home in August 2006.

Payne said the two began arguing and that Arnold asked Spray to leave.

"Somewhere in that argument, the boy brought out a rifle," the prosecutor said.

He said that witnesses reported that Joseph Arnold fired a .300 Winchester Magnum rifle through a front

room wall, hitting Spray, who was standing on the porch.

Spray was reported missing on Aug. 22, 2006.

Payne said Spray was well known by police, and when that contact stopped police suspected something had happened to him.

"If he was around, he was always involved with the police one way or another," Payne said. "Either he was complaining about somebody or they were complaining about him."

Payne said that investigators believe Spray's body is buried on private land in the St. Maries River Drainage. That area has been logged since Spray disappeared, and there is currently a layer of snow in the area.

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## Help, continued from 1A

"Having this many microscopes allows all of my students to have their own personal setup. Science class can be boring for students, but with this new equipment studying science can be fun," McDermott said.

After the presentation of the new science equipment the group traveled to the Bingham Crisis Center.

The Bingham Crisis Center was awarded a check for \$3,400. The money will be used to upgrade their office with new computers to make them more effective in their work for the community.

On a regular basis, Basic

American Foods select different groups around the community to provide grants used to upgrade different aspects of their business or group.

In order to be in the grant selection process, proposals are required to be sent into Basic American Food for consideration.

"Programs around the community can apply for grants. Here at Basic American Foods we strive to help the community. We are strong supporters of education, because we know someday these students may be working for our company, but we donate throughout the entire community," Conn said.

## Nonpareil Corporation Plans Public Meeting

Nonpareil Corporation will hold an informational meeting in accordance with Idaho regulations on April 23rd at the Blackfoot Best Western Inn in Blackfoot, Idaho at 12 p.m.

The purpose of this meeting will be to discuss an air quality Permit to Construct application for replacing a damaged natural gas fired steam boiler at the Nonpareil Processing plant at 40 N. 400 W., Blackfoot, Idaho 83221.

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any Smoothie or  
Italian Soda  
(with this coupon)



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COFFEE ESPRESSO

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## Wind Farm, continued from 1A

Seifert attempted to allay the fears of people worried about the up to 400-foot towers falling on their property by saying failure generally doesn't result from wind shear, but some manufacturing defect, and when they fall it's seldom any direction but straight down.

He said Ridgeline has the benefit of years of experience in the wind power industry, and that engineers for the company producing turbines are always working to improve them.

Those opposed to the project in the Wolverine Canyon area cited a number of reasons they shouldn't go in, including loss of enjoyment of vacation homes many had worked years to obtain, loss of scenic beauty, loss of wildlife habitat, loss of a prime recreation area, noise, and depressed property values.

Several own homes in the Spring Valley Subdivision on Sellers Creek, and said they would far rather see the land sold for recreational subdivisions than for wind turbines. A couple testified that turbines will completely surround the subdivision.

The property owned by the opponents ranges from a few

acres to thousands of acres, but their contention was the same:

They should have the same right as the landowners who will benefit from the project in saying how the land around them is used.

Bret Carlson of Idaho Falls said he owns around 7.5 acres in Wolverine Basin, and the wind turbines will ruin a view his family has been enjoying for 100 years.

P&Z member Randy Turpin asked Carlson "How to we balance their needs as a landowner and your needs?"

"All you have to do is follow the law, which says a special use should not change the character of the area," Carlson replied.

In response to earlier testimony that renting their land out for wind power will allow ranchers to keep their land in its traditional use, Christine Carlson said it may save the dreams of some families, but will destroy those of others.

Rancher Ryan Hoffman said, contrary to claims the turbines won't affect wildlife and grazing use, those in Ridgeline's first project have had an impact on his cattle. He said they will graze beneath the turbines, but won't rest

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